Comments on NJDEP White Paper: SCS004A - Process Heaters/ Boilers in a Petroleum Refinery

Control Measure Summary from NJDEP White Paper	Emissions (tons/year) in NJ (from NJDEP White Paper)		Comments on NJDEP White Paper
2002 existing measure: Heaters and boilers burning liquid fuel are equipped with Low NOx burners. Most gas fired heaters and boilers in New Jersey are equipped with Ultra-Low NOx Burners.	**NOx** in 2002	3074	NJDEP should reference the source(s) for the NOx emission data so that comments can be provided. As presented, there is insufficient background information to assess the accuracy of the emission estimates.
Candidate Measure 1: Replace Low NOx burners with Ultra-Low NOx Burners (ULNB) and burn gas fuel only **Emission Reductions:** 75 to 90% of NOx. **Control Cost:** < $1000 per ton of NOx removed **Timing of Implementation**: Already in place in majority of the units. **Implementation Area**: OTC	**NOx** 2002 Base: Reduction: 2009 Remaining:	3074 - 573 2501	The emission reductions of 75% to 90% of NOx identified by Candidate Measure 1, Replace Low NOx burners with Ultra-Low NOx Burners (ULNB) and burn gas fuel only, is inaccurate and misleading. The emission reduction identified can potentially be achieved by converting conventional burners or burners with no combustion controls to Ultra-Low NOx Burners, but not from converting Low-NOx burners to Ultra-Low-NOx Burners. As such, if the NJDEP did not consider that sources would be switching from Low-NOx burners and not an uncontrolled source, the control cost to implement the candidate measure may also be inaccurate.
Candidate Measure 2: Use Selective Catalytic Reduction (SCR) on boilers and heaters with heat input capacity of 250 MMBtu/hr or greater **Emission Reductions**: 85 to 90% NOx **Control Cost:** $2000 to 5000 per ton of NOx removed. **Timing of Implementation:** Already in place for some boilers and large process heaters. **Implementation Area:** OTC			NJDEP provides insufficient information to evaluate the accuracy of the documented NOx reduction of 573 tons/yr. NJDEP should provide the basis for the reduction so that detailed comments can be provided. For example, NJDEP should, at a minimum, provide an analysis that identifies the existing source inventory, and associated emissions, control measures currently utilized, reductions that will be achieved through implementation of the recent revisions to Subchapter 19, and reductions achieved through Consent Decrees. In addition, NJDEP should provide cost calculations and references for the basis of the cost calculation.
Policy Recommendation of State/Workgroup Lead: Ultra-Low NOx Burners (ULNB) using gaseous fuel is recommended for all cases. SCR is recommended for large capacity heaters and boilers. **Brief Rationale for Recommended Strategy:** ULNB is a low cost technology successfully applied to boilers and process heaters of various designs. SCR can achieve high NOx removal at a reasonable cost. This technology has been successfully applied to boilers and large capacity process heaters.			The candidate control measures presented in this white paper (SCS004A) are inconsistent with those presented in the Stationary Combustion Source Workgroup report, "A Collaborative Report Presenting Air Quality Strategies for Further Consideration by the State of New Jersey" dated October 31, 2005. The candidate measures evaluated in this white paper are not presented as one of the top five most promising control strategies. The implementation of the Ultra-Low NOx burners and SCR on sources without combustion control can result in significant NOx reductions. However, the costs for implementing such a strategy can vary significantly based on site-specific considerations, such as existing control technology, baseline NOx emissions, utilization level, space constraints, and cost of any necessary retrofits. Before any regulatory action, the NJDEP needs to provide detailed information on baseline emissions and control costs, and develop a method to adequately address site-specific considerations. Additionally, NJDEP should consider, and document the impact of mandated future emission reductions that will result from existing agreements and regulations, such as N.J.A.C. Subchapter 18, N.J.A.C. Subchapter 19, PSD, ACO's and Consent Decrees.